



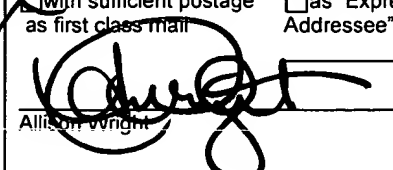
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PATENT

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Allison Wright

Applicant: **Asami et al.**
Serial No.: **09/107,705**
Filed: **06/30/98**
Title: **Control Apparatus For Gas Analyzer System And Control Method Thereof**
Examiner: **N. Patel**
Group Art Unit: **2673**
Atty. Docket No.: **380153-53**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

RESPONSE TO OFFICE ACTION WITH REPLACEMENT CLAIMS

Commissioner for Patents
Box No Fee Amendment
Washington, D.C. 20231

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JUL 20 2001

Technology Center 2600

Sir:

In response to the Office Action mailed February 26, 2001, please amend the above-identified application as follows:

Remarks/Arguments

Discussion of Claims

In the Office Action, claims 1, 5, 6, and 9 stand rejected under 35 U.S.C. § 102(b) as being anticipated by *Irie et al.* (U.S. Patent No. 5,304,797).

In the Office Action, claims 2-4, and 7-8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Irie et al.* ('797).

Following is a discussion of the patentability of each of the pending claims.

Rejections under 35 USC §102

"Anticipation is established only when a single prior art reference discloses expressly or under the principles of inherency, each and every element of the claimed invention." RCA Corp. v. Applied Digital Data Systems, Inc., (1984, CA FC) 221 U.S.P.Q. 385. The standard for lack of novelty, that is, for "anticipation," is one of strict identity. To anticipate a claim, a patent or a single prior art reference must contain all of the essential elements of the particular claims. Schroeder v. Owens-Corning Fiberglass Corp., 514 F.2d 901, 185 U.S.P.Q. 723 (9th Cir. 1975); and Cool-Fin Elecs. Corp. v.

International Elec. Research Corp., 491 F.2d 660, 180 U.S.P.Q. 481 (9th Cir. 1974). "A rejection for anticipation under §102 requires that **each and every** limitation of the claimed invention be disclosed in a single prior art reference." In re Paulsen, 31 U.S.P.Q.2d 1671, 1673 (Fed. Cir. 1994)(emphasis added).

Independent Claim 1

Claim 1 of the present invention describes a control apparatus for a gas analyzer system. The gas analyzer system includes a plurality of gas analyzers. Each gas analyzer has a gas analyzing unit with a plurality of outputs for analyzing a respective gas, a plurality of analog to digital converters (herein AD converters) having a plurality of inputs respectively connected to the outputs of the gas analyzer unit according to a connection condition, an internal bus connected to an output of each AD converter, and a non-volatile memory unit connected to the internal bus for storing a connection condition table which includes information for the connection condition. The control apparatus has a CPU bus connected to the internal bus of each of the gas analyzers, a non-volatile memory unit connected to the internal bus for storing a connection condition table which includes information for the connection condition, and an analyzer processing unit. The analyzer processing unit has a CPU connected to the CPU bus, and the CPU operates in accordance with a program for controlling each of the gas analyzers.

Examiner Patel rejected claim 1 in light of *Irie et al.* (5,304,797). The *Irie et al.* reference discloses a gas analyzer for determining impurity concentration of highly purified gases. More specifically, Figure 9 of the *Irie* reference teaches a gas analyzing system having three gas analyzers 46a, 46b, and 46c sharing a single pulse generator 54, a single high voltage power supply 56, and a single computer 50. In addition, the individual gas analyzers communicate with individual AD converters 47a, 47b, and 47c, respectively, which are in communication with individual memory devices 49a, 49b, and 49c, respectively. As shown in Figure 9, the memory devices 49a-49c are in communication with the computer 50. Those skilled in the art will appreciate computer 50 of the *Irie* reference fails to communicate with the gas analyzers 46a-46c or the AD converters 47a-47c. In addition, Figure 9 of the *Irie* reference clearly shows digital data 48a-48c flowing from AD converters 47a-47c to the memory devices 49a-49c.

In contrast Figure 1 of the present invention shows a plurality internal buses 7g positioned within gas analyzers 8, 9, and 10 and in communication the system CPU 2a through the external bus 6. As shown in Figure 1, the internal buses 7g are in communication with non-volatile memory devices 11, 12, and 13 and a plurality of AD converters 7a-7e located within the gas analyzers 8, 9, and 10, respectively. This configuration permits the system CPU 2a to communicate directly with the non-volatile memory devices 11-13 and the plurality of AD converters 7a-7e located within the gas analyzers 8, 9, and 10, thereby enabling the CPU to monitor the AD converter output signals and the connection condition table stored on the non-volatile memory devices 11-13 simultaneously.

For the reasons stated above, it is respectfully submitted that independent claim 1 is not anticipated by the *Irie et al.* reference.

Independent Claim 5

Claim 5 of the present invention describes a method of controlling a gas analyzer system. More particularly, the method of controlling a gas analyzing system comprises providing a gas analyzer having an analyzer processing unit including a CPU connected to a CPU bus such that the CPU bus may be in communication with the internal bus of each of the gas analyzers, thereby enabling the CPU to read the connection condition table stored in the memory units of the gas analyzers and to read a signal input from the gas analyzers to the AD converters. Thereafter, the AD converter signal input and the connection condition table stored in the memory unit may be analyzed and processed by the gas analyzer processing unit.

Examiner Patel rejected the claim 5 in light of *Irie et al.*. This rejection must fail for at least the same reasons as set forth in the traversal of claim 1 under 35 U.S.C. §102 above. In short, the *Irie* reference fails to disclose or suggest the step of monitoring the memory units and reading with the CPU a signal input to the AD converter. In addition, Figure 9 of the *Irie* reference clearly illustrates the CPU 50 in communication with the memory units 49a-49c, not with the AD converters 47a-47c.

For the reasons stated above, it is respectfully submitted that independent claim 5 is not anticipated by the *Irie et al.* reference.

Independent Claim 6

Claim 6 of the present invention describes a gas analyzer system. More particularly, Claim 6 teaches a gas analyzer system having a CPU in communication with a plurality of gas analyzers through a CPU bus, each gas analyzer having an internal bus therein. The internal bus of each gas analyzer enables the CPU bus to communicate with the memory unit and a plurality of AD converters. The gas analyzer processing unit which includes the CPU operates a program capable of controlling each of said gas analyzers. In addition, the single CPU directly reads a connection condition table stored in each memory unit of the gas analyzers.

Examiner Patel rejected the claim 6 in light of *Irie et al.*. This rejection must fail for at least the same reasons as set forth in the traversal of claim 1 under 35 U.S.C. §102 above. In short, the *Irie* reference fails to disclose or suggest a system wherein the CPU is in communication with the individual memory units and the AD converters.

For the reasons stated above, it is respectfully submitted that independent claim 6 is not anticipated by the *Irie et al.* reference.

Independent Claim 9

Claim 9 of the present invention describes a method of controlling a gas analyzer system. More particularly, the method of controlling a gas analyzing system comprises providing a providing an gas analyzer having an analyzer processing unit including a single CPU connected to a CPU bus such that the CPU bus is connected to the internal bus of each of the gas analyzers, reading with said single CPU the connection condition table stored in the memory units of the gas analyzers, and reading a signal input from the gas analyzers to the AD converter with the single CPU. Thereafter, the AD converter signal input and the connection condition table stored in the memory unit may be analyzed and processed by the gas analyzer processing unit.

Examiner Patel rejected the claim 9 in light of *Irie et al.*. This rejection must fail for at least the same reasons as set forth in the traversal of claim 5 under 35 U.S.C. §102 above. In short, the *Irie* reference fails to disclose or suggest the step of monitoring the memory units and reading with the single CPU a signal input to the AD converter.

For the reasons stated above, it is respectfully submitted that independent claim 9 is not anticipated by the *Irie et al.* reference.

Rejections under 35 USC §103

Claims 2-4 and 7-8 of the present invention were rejected under 35 USC §103 as being unpatentable over *Irie et al.* (5,304,797).

Claims 2-4, and 7-8

Independent claims 2 and 6 of the present invention teaches a gas analyzer system comprising a CPU in communication with a CPU bus, a plurality of gas analyzers each having a gas analyzer unit, each gas analyzer units having an internal bus in communication with the CPU bus, the internal bus further in communication with a plurality of AD converters and memory units. The memory units of the gas analyzer units store a connection condition table. The present invention permits the CPU to access, monitor, and control the AD converters and memory units individually.

The *Irie et al.* reference discloses a system wherein the computer 50 is capable of monitoring and controlling the memory devices 49a-49c. Examiner Patel states in the Office Action it would have been obvious for one skilled in the art to include a programmable ROM storing the connection condition table within the gas analyzer system. When rejecting a claim as *prima facie* obvious, the initial burden is on the examiner to provide some suggestion of the desirability of doing what is the inventor has done. "To support the conclusion the claimed invention is directed to obvious subject matter, either the references expressly or implicitly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why an artisan would have found the claimed invention to have been obvious in light of the teachings of the references". Ex parte Clapp, 227 USPQ 972, 973 (Bd. Pat. App.& Inter. 1985). In the present case, the reference fails to teach or suggest the capability of the computer controlling or monitoring the AD converters.

With respect to claims 3-4, and 7-8 the rejections must fail for at least the same reasons as set forth in the traversal of claim 6 under 35 U.S.C. §102 above and claim 2 under 35 U.S.C. §103 above. In short, the *Irie* reference fails to disclose or suggest the elements of claims 2 and 6 and, therefore, fails as primary references at the

outset. However, the claims dependent to claims 2 and 6 further distinguish the present invention over the prior art and thus are independently patentable over claims 2 and 6.


Conclusion

Accordingly, issuance of the Notice of Allowance at an early date is in order and is respectfully requested. If it is felt for any reason that direct communication with Applicant's attorney would serve to advance prosecution of this case to finality, the Examiner is invited to call the undersigned Brian F. Swienton, Esq. at the below listed telephone number.

The Commissioner is authorized to charge any fee which may be required in connection with this Amendment to deposit account No. 16-2230.

Respectfully submitted,

Dated: July 10, 2001



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